LAMBERTUS VAN ZELST

Director
Conservation Analytical Laboratory
Smithsonian Institution
Washington, D.C.

Needs and Potential Solutions in Conservation

INTRODUCTION

There is a certain challenge to discussing the conservation needs of nonbook materials at a meeting of library specialists. While most of the presentations in this volume deal with the preservation of nonbook materials which librarians may very well encounter in the collections of their institutions, this paper addresses the "state of conservation" in general, in or outside the library field. To do so, the author did not have to start from scratch; in fact, his homework had been done already by the National Institute for Conservation of Cultural Property (NIC), about which more will be said later in this paper.

This paper uses as its reference point Figure 1. This figure, prepared by NIC, gives an overall assessment of the existing needs in various areas. The intensity of the shading represents the urgency of the need to address any individual activity. As one sees immediately, the library and fine arts fields are relatively the best off, with natural history collections in the worst overall state. This figure compares the relative condition of each specialty field within each activity.

Public Awareness

The first column in Figure 1 deals with the degree of public awareness. One hardly needs to emphasize the importance of this educational endeavor; without a broad-based public understanding and support of the conservation and preservation needs of the nation's cultural property, these activities will not be assigned the relatively high priority on the list of civic responsibilities necessary to obtain and sustain

AN ASSESSMENT OF THE CURRENT STATE OF ACTIVITIES REQUIRED FOR
THE CONTINUING CARE OF OUR NATIONAL PATRIMONY
Prepared by the National Institute for the Conservation of Cultural Property

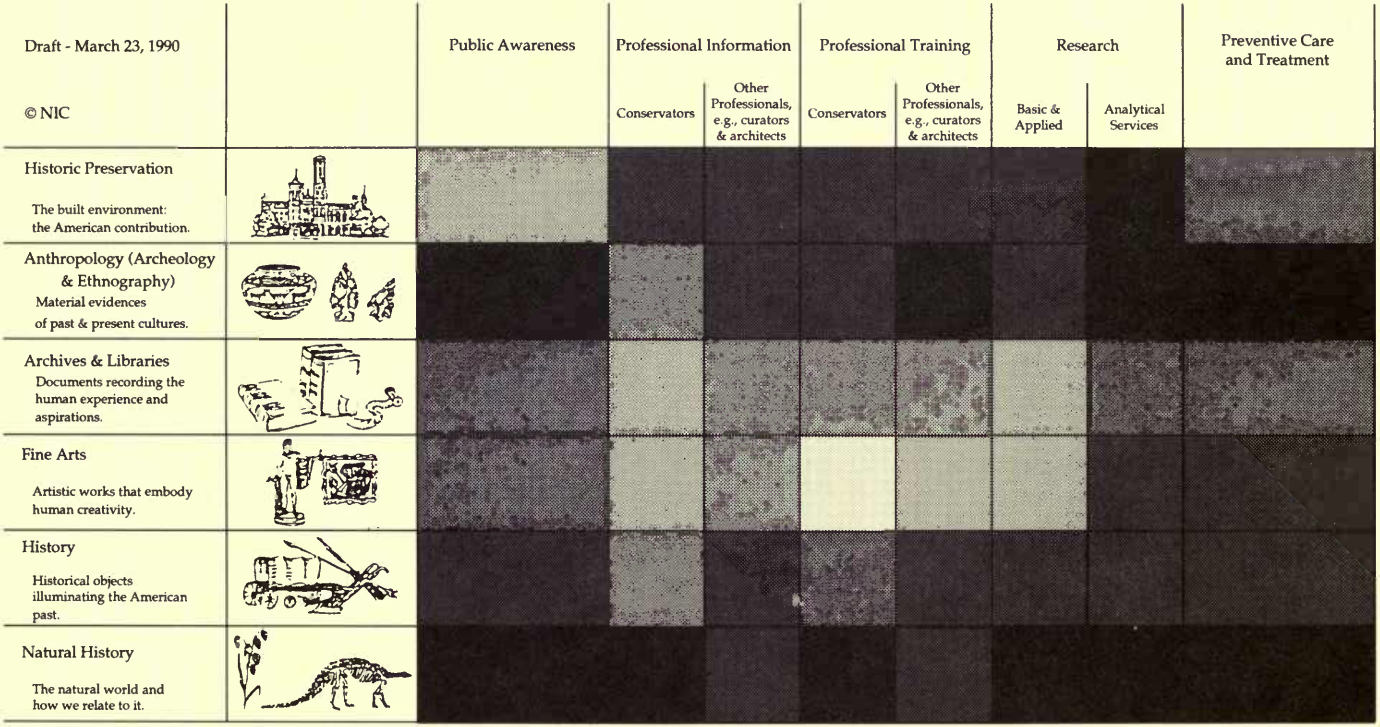

Figure 1. The lighter the shade the better this activity is being addressed. For example, the area that is most adequately addressed is the training of conservators of fine arts. However, even in this area much remains to be done. There is a need to strengthen the existing training programs financially so they have adequate ongoing operating support.

the needed public and private funding. The field of Architectural and Historic Preservation has done the best job so far; one needs only to think about the relatively large number of members of the National Trust for Historic Preservation who receive *Historic Preservation*, and the existence of a federally chartered and funded Advisory Council for Historic Preservation, which plays a significant role in the formulation of federal government policies regarding historic preservation issues. Archives, libraries, and fine arts museums still have a lot to do. The archives and library fields, especially, have more recently made significant progress in this regard through "brittle book" campaigns such as the *Slow Fires* videotape and the successful subsequent call for Congressional funding through the National Endowment for the Humanities. History, natural history, and anthropology collections are by far the worst off because there is very little public awareness of their conservation and preservation needs. Certainly, part of the reason for this shortfall lies in the fact that these collections, especially those in anthropology and natural history, are of a systematic type and exist primarily for research purposes. Consequently, one is dealing with extremely large collections, generally orders of magnitude larger that fine arts collections, and only a minor fraction of these collections is on public view, while the major part remains in storage. As a result, the public has very little concept of the extent of the preservation problem in these collections. An additional difficulty comes in bringing the point across that, for example, even rock specimens in mineralogy collections do deteriorate under inappropriate conditions and need preservation care. History collections often share the same problem of disproportion between collection size and the number of items on public view. Moreover, many of these collections are housed in relatively small institutions—historic houses, small local museums—and hence do not have the visibility which display in a large institution affords. This, of course, also affects those systematic collections housed in university museums, a significant fraction of natural history and anthropology collections.

Both NIC and the American Institute for Conservation of Historic and Artistic Works (AIC)—the professional organization for conservators and other conservation professionals—have earmarked raising public awareness as a high priority. One problem lies in the funding, as this has to be sought in the private sector, and public awareness campaigns can be quite costly. The successes in the architectural preservation field provide good examples of mechanisms which can be employed profitably. The campaign around the restoration of the Statue of Liberty shows the benefit of tying in with a "spectacular" project. Even controversies can be used to advantage: the recent discussions around the cleaning of the Sistine Chapel frescoes have certainly brought some of the issues

in conservation to the attention of a wider audience. The National Trust's success was already referred to above; one might speculate that a magazine similar to *Historic Preservation* but devoted to the preservation and conservation of the other components of the nation's cultural patrimony should be equally attractive to the public.

Professional Information

The second column in Figure 1, Professional Information, is split into two subheadings: Conservators and Other Professionals. The first subcolumn deals with the amount of technical information available to conservation professionals and the ease with which they can obtain this information. While there is a certain amount of variability, the situation here is not too bad, with the notable exception of natural history collections. The professional organizations, such as the American Institute for Conservation of Historic and Artistic Works (AIC), the International Institute for Conservation of Historic and Artistic Works (IIC), and the Association for Preservation Technology (APT), to mention a few of the most prominent ones, publish technical journals and organize regular technical meetings which allow for a constant flow of information. It is worthwhile noting that conservators working in fine arts, anthropology, history, and archival and library collections deal with the same basic materials and thus can share to a large extent the same technical information. This holds to a lesser extent, of course, once preservation issues come in because now the nature of the collection, its use and size, come to play a differentiating role. The situation in natural history specimen conservation, although still rather bleak, can look forward to improvements in the not-too-distant future with the establishment of a professional organization in this field, the Society for Preservation of Natural History Collections (SPNHC). The Society publishes a biennial journal. The dissemination of technical information through the journals and meetings of the professional organizations is typically financed from membership dues, subscriptions, and registration fees. Other technical conferences and symposia are regularly organized with financial assistance from foundations and the private sector.

A rather recent initiative, which greatly increases the ease and speed with which conservators can have access to the existing body of technical information, is the international Conservation Information Network (CIN). This computer network pools the information resources of the conservation community. Financial assistance has come from the Getty Conservation Institute and the active collaboration of that institution, the Canadian Conservation Institute (CCI), the Smithsonian's Conservation Analytical Laboratory (CAL), the International Centre for

the Study of the Preservation and the Restoration of Cultural Property (ICCROM) in Rome, the International Council of Museums (ICOM) in Paris, and the International Council on Monuments and Sites (ICOMOS), also in Paris. Through CIN, professionals in many countries can have online access to large bibliographic and material databases housed in the computers of the Canadian Heritage Information Network (CHIN). Discussions are ongoing with the Library of Congress on the addition of a comprehensive book conservation and preservation component.

Less rose-colored is the situation with regard to the provision of professional conservation information to other nonconservation professionals such as curators, architects, librarians, archivists, registrars, etc. It seems that the way to deal with this situation is to build bridges between the professional organizations of conservators (AIC, APT, etc.) and those of other professionals such as the American Association of Museums (AAM), the Association of Systematic Collections (ASC); the American Institute of Architects (AIA); the three major organizations of American archaeologists: Archaeological Institute of America (AIA), Society for American Archaeology (SAA) and the American Anthropological Association (AAA); the American Library Association (ALA); the Society of American Archivists (SAA); and a number of others. AIC, for one, is presently taking steps to open up more interactive relationships with a number of these organizations. Organizing special sessions at annual meetings could be an especially effective way of distributing the information.

Professional Training

The third column in Figure 1, Professional Training, again is split between training for conservation professionals and conservation training for other professionals. The brightest spot on the chart refers to the professional training for conservators in fine arts collections. This is to a large extent the consequence of the history of conservation, which saw its origins in the arts conservation field. Presently, there are three academic training programs for conservators catering to the fine arts field, although graduates from these programs also find frequent employment in archaeology and ethnography museums, history museums, and libraries or archives. These programs are operated by the University of Delaware, New York University, and the State University College at Buffalo, New York. Each program confers a Master's degree in Arts or Science, and, depending on the program, a certificate in conservation. Typically, students are trained at the graduate level over a period of three or four years to become experts in such specialties as the conservation of paintings, works of art on paper, textiles, three-

dimensional objects, furniture, etc. The students spend one year in practical training as interns with an established conservator. Each of the programs graduates an average of ten conservators annually. The library and archives field draws to some extent on the paper conservators trained in the programs referred to above, but also has a special conservation training program at Columbia University. The latter school additionally operates a small training program in architectural conservation. The demand for architectural preservation specialists, however, is not met through American training programs. Many American architects have attended the programs offered by ICCROM in Rome (more about this organization will be discussed later in this paper) or in York, England. Several American universities offer programs in historic preservation, but they tend to be less technical in nature.

History museums are to a certain extent served by the flow of objects conservators coming out of the training programs. However, the conservation of technology history collections (for example, historic machinery, airplanes, trains, and automobiles) entails a large number of issues, both philosophical and practical, which are totally different from the more traditional conservation of three-dimensional arts museum objects. Presently, no programs dedicate courses to these specialties, and technology museums must depend on a blend of conventionally trained objects conservators with technological specialists trained within the crafts tradition (for example, airplane maintenance mechanics). Similarly, archaeology and ethnography collections depend to a large extent on the objects conservators who graduate from the training programs, but again, a great need exists for specially trained conservators for such collections and for work on excavation sites. Some American conservators have been trained at institutions in England and Canada, but a study by the National Institute for Conservation has established that the need is large enough to justify a national training program in archaeologic and ethnographic conservation.

Academic conservation programs depend heavily on outside funding, especially for tuition and student stipend support. Both government funding, through the National Endowments of the Arts and Humanities and the National Museum Act, and private funding, especially from a number of foundations such as the Mellon, Kress, and Getty Foundations, have been of critical importance in this respect. Unfortunately, the termination of the National Museum Act and reduced funding by other federal agencies, which cannot be compensated for with foundation support, have resulted in serious financial problems for these programs.

It should be emphasized that academic graduate programs are by no means the only way to train conservators. In the art conservation as well as the book conservation field, apprenticeship training has been a

time-honored method of education. A well-designed and personalized apprenticeship can be at least as fruitful as academic training and may often offer additional benefits in that much more attention can be given to the development of hands-on skills. However, when addressing the national need for skilled professionals, the efficiency of the academic programs in training relatively large numbers of students simultaneously offers a clear advantage. A new and rather innovative training mechanism was adopted by the Smithsonian Institution's Conservation Analytical Laboratory (CAL) for its Furniture Conservation Training Program. Because the traditional training programs could not fill the need for furniture specialists by far, a different approach was sought. As a result, experienced wood craftspeople, who do not need training in construction methods and other woodcrafts skills, are trained in the necessary conservation skills through a program which combines twelve two-week courses taught at CAL with a regime of intensive home study. This allows the students to maintain regular employment while following the three-year study program. A fourth year is spent again in practical internships with established furniture conservators. Through a collaborative agreement with Adelphi (Ohio) University, it is possible for students in this program to obtain a Master's degree with the completion of their study, in addition to the Smithsonian's certificate. This program is financed entirely by CAL, although the students are expected to take care of their own travel and lodging expenses connected with course attendance.

It was already mentioned that the academic training involves one year of internship spent with an established conservator. Generally, it is agreed that additional internship training after completion of the academic program is not only highly beneficial but almost essential because it provides the recently graduated conservator with "hands-on" experience in a "real life" situation. A number of such internship opportunities are available at a variety of institutions. Funding for these internships is made available by a number of foundations and institutions. Practicing conservators still have the need for advanced courses in specialized subjects and periodical refresher courses. These are organized by the professional organizations, as well as by a number of institutions, among which the Getty Conservation Institute and CAL are especially active.

Conservation Training for Other Professionals

In regard to the subject of the second subcolumn in Figure 1, Conservation Training for Other Professionals, the state of affairs provides less reason for exuberance. Figure 1 shows that the darkest area of shading pertains to the areas of anthropology and natural history.

Indeed, anthropologists, biologists, and mineralogists, to name some of the professionals most frequently found to be charged with the curation of such collections, generally will receive no training related to preservation issues whatsoever in their professional education. In fact, one major problem, especially in natural history collections, is that the typical curator of such collections has received no museology training at all. The situation is hardly much better in history collections and in architecture. The most enlightened professionals seem to reside in fine arts museums, libraries, and archives. However, there is no reason yet to rest on unearned laurels; many of the academic museology programs do not have a significant conservation component, and fine arts curators often enter the profession through a different path, i.e., graduate studies in art history. Clearly, raising awareness through professional organizations is much needed. If such organizations, in collaboration with conservation organizations such as AIC, could convince the academic departments involved to add appropriate conservation components to their course package, very significant progress could result. Some of these professional organizations are presently considering the possibility of establishing an accreditation system for training programs. Certainly, the conservation community would be delighted to play an advisory role in determining minimum standards for the contents of appropriate conservation courses.

Research

The next column heading in Figure 1 is somewhat of a misnomer: it really should be called Scientific Support. The subheadings are then Research and Analytical Services. The first subcolumn, Research, deals with the amount of research in conservation science and technology done for various types of collections. To elucidate these terms, *conservation science* concerns itself with the understanding and characterization of the processes, chemical and physical, which play a role in the deterioration of objects and the materials from which they are composed, and with evaluating the factors which influence the rates at which these processes take place. Such information can lead to the formulation of optimum conditions for storage, exhibiting, transit, etc. and form the basis, too, for conservation technology research. The latter type of research, *technology* endeavors to develop and test treatment techniques for objects in unstable conditions. Both types of research are closely interrelated and should preferably not be pursued in isolation. Also, the research teams ideally should be comprised of both conservators and physical scientists.

The Research column in Figure 1 shows a quite stark contrast

between the fields for fine arts, libraries and archives, which appear relatively light, and the other types of collections. Again, this is largely due to historic developments. Much of the early work was done within the conservation departments of the larger art museums and major libraries and archives. These large institutions recognized the need for research in preservation issues affecting their collections. Realizing that their interests were at stake, they took the necessary steps either to initiate this research in-house or to sponsor it through outside research establishments. This is not meant at all to negate the very significant contributions made, especially in the area of treatment technology, by dedicated individual conservators, including private practitioners. They, however, also came from the fields of fine arts and libraries. More recently, a shift seems to be occurring, due to the establishment of a few major research laboratories dedicated to the improvement of collections care. Some of these, such as the Canadian Conservation Institute (CCI), the Getty Conservation Institute (GCI) and the Smithsonian's Conservation Analytical Laboratory (CAL), are rather eclectic in their choice of research programs and may cover a wide range; others, such as the laboratories of the Library of Congress and the National Archives, are principally dedicated to work pertaining to the collection which they serve. Of course, the results obtained in the latter type of laboratories are equally important to the preservation of collections in other libraries and archives. As with all scientific research, this type of work can be extremely expensive. While support for conservation research can be obtained from several funding agencies and foundations, the amounts of individual grants are generally such that only limited projects can be undertaken. As a result, larger, specialized laboratories play a more significant role because they have the necessary equipment and staff resources provided for in their regular budgets and can run a number of projects simultaneously.

From the shading of the other fields in the Research column in Figure 1, it is clear that these fields are quite far behind in the development of research data that support the conservation and preservation of their collections. However, the shift referred to in the preceding paragraph may well be of help here. The new, large laboratories may be able to address some of the research needs of these fields, allocating resources on a scale which will allow for greater efficiency than otherwise obtainable. As an example, even in the darkest area—the natural history collections—some recent research initiatives by laboratories at Carnegie-Mellon and CAL may be expected to result in the production of some highly needed data. In natural history collections, especially, an immense amount of work is necessary. Recent developments in scientific research technology, especially in the biological

sciences, and the resulting new uses of the research collections as, for example, in the DNA characterization to establish philogenetic relationships, have placed completely new restrictions on the actual intervention allowable in conservation and preservation treatments of specimens in such collections. Preservation of modern synthetic materials is another area in which research is greatly needed. While data from such research will be of great utility in fields such as fine arts collections, especially those involving contemporary art works, the greatest impact would be in the technology and history collections, where objects composed of these materials enter the collections in enormous numbers and presently pose often insolvable preservation problems. Again, the attention of the research institutions must be directed to these problems, and some of the new initiatives indicate that this is happening. A major problem is posed, though, by the shortage of conservation scientists, i.e. physical scientists with a specialization in this type of research. A recently initiated graduate training program operated collaboratively by the Johns Hopkins University and the Smithsonian's Conservation Analytical Laboratory, which leads to a PhD in materials science with a subspecialty in conservation science, is a first attempt at formulating a remedy for this longstanding problem.

Analytical Services

Analytical support for conservation practitioners is a different matter. Conservators engaged in the care of collections and the treatment of instable objects regularly have an urgent need for analytical assistance. Sometimes the questions are of a relatively straightforward nature, requiring rather routine analytical techniques, but on other occasions complicated processes must be evaluated, or analyses are needed which require the use of very sophisticated analytical technology and specialized expertise. A complicating factor is that objects have typically quite unique problems because of their individual composition and history. Hence, there is a need for customized analytical services in that the scientist who will perform the work must be fully informed and understanding of the particular problem and object for which the analysis is required. Thus, the scientist must collaborate closely with the conservator to ensure that the proper analytical techniques will be used and appropriate samples selected if necessary. This requirement makes it very difficult to use, for example, commercial analytical laboratories: when the conservator takes samples in isolation from the analyst and then mails them to the latter, chances are all too great that the answers obtained will be rather meaningless in the context of the real question at hand. This situation also makes the usefulness of a central laboratory to serve a national or large regional area highly questionable.

A look at the column for Analytical Services in Figure 1 clarifies immediately that this is one of the bleakest areas in regard to unserviced needs. One of the major problems is cost. Setting up a basic support laboratory for a typical museum will require an initial investment of the order of one million dollars; also, the operating costs are quite high, as equipment needs to be capitalized and maintained, while the salary costs for scientific staff are more than museums are accustomed to. A few of the major museums, libraries and archives, recognizing the constant need for analytical support, have been able to afford these expenses, but for many medium-size and smaller institutions, the cost is too high. This leaves the conservators in such institutions, as well as those in private practice, with the problem of where to get the help they need. For many of the more simple analytical needs, where a material needs to be identified with routine techniques, local university or even industrial laboratories may well be of assistance, provided, again, that the question to which the analysis should provide an answer is thoroughly discussed with the collaborating scientist. Indeed, many conservators have established good personal relationships with scientists in such local institutions and make regular use of this acquaintance. However, in the frequent cases where the problem is more complicated and the scientist has to have a certain background in conservation issues, most conservators have a very hard time finding help. Various mechanisms have been suggested to alleviate this problem. Most prominent among these has figured the notion of a large central service laboratory which would serve the nation. However, because of the impossibility to maintain the direct collaborative relation between the conservator requesting the assistance and the scientist who will do the analytical work, this idea does not seem to offer a feasible solution. Certainly, large central laboratories could play a useful role in doing research in conservation science and technology, and as mentioned before, this is actually happening. The analytical support, however, needs to be administered on a more local level. Present thinking tends to point in the direction of regional laboratories, with each covering an area whose size allows the scientists to go to the collections served, or the conservators with their objects to come to the laboratory. An analog here exists already for the provision of actual conservation services in the so-called regional laboratories, which will be discussed later. One could visualize regional analytical centers set up along the same lines, or even using the existing regional conservation centers and operated under cooperative agreements between regional institutions and private conservators. Another variation foresees the establishment of a national institute, not housed in a large central laboratory, but consisting of a series of regional subsidiaries. A recently initiated action group, the Center for Advance-

ment of Preservation Technology (CAPT), which has its roots in the archaeological community, proposes to establish a network of such regional centers within cooperating universities. At present, however, conservators have to use the help where they can find it. Luckily, a number of the institutional laboratories will take on outside work from colleagues in other institutions or private practice. A recent study conducted, but not yet published, under the aegis of AIC, has surveyed the institutions which are able and willing to share such resources. It is important to note again, though, that scientific support is relatively expensive, and conservation budgets need to allow for these costs.

Preventive Care and Treatment

The last column of Figure 1 is Preventive Care and Treatment. Here can be seen how much actual care collections of various types receive. This picture emerges: the situation is relatively the best in fine arts museums, followed by libraries and archives and architectural and historic preservation, and rather bleak in other areas, especially in natural history and archaeology collections. Also, it is very clear that even in those "enlightened" areas there is more than enough room for improvement. This situation has arisen from a combination of reasons. A general malaise results from the cost associated with these activities which definitely affects the operating budget of the institution housing the collections. This, in combination with the lack of awareness of the imperative for conservation, has often led to a too-low position of conservation in the institutional priorities. That art museums historically have been leaders in the provision of conservation care to their collections certainly is due in part to the fact that the monetary value of the collections provides an incentive. Most large-size and many medium-size museums today have inhouse conservation departments, as do a number of major libraries and archives. Over the last fifteen years, a number of so-called regional laboratories have been established; these serve a number of institutions in their geographic area which could not afford individual inhouse laboratories. Often, they are organized as consortia of these institutions. Several such regional centers specialize in servicing libraries and archives. Finally, the increased awareness of the need for conservation care, combined with improved funding possibilities for conservation operation expenses through the National Endowments and, especially, the Institute for Museum Services (IMS), have led to a significantly increased demand for services of conservators in private practice. As a result, the number of such independently operating conservators has seen a corresponding rise. To help institutions in finding conservators who will accept private practice work, AIC has

established a referral system which classifies conservators by specialty and geographic location.

Summary of Figure 1

As discussed earlier, enhanced public awareness of the need for historic preservation is certainly an important factor in the status of care given to architectural preservation, as is the financial rewards incentive. The situation in anthropology and natural history collections is by far the worst. Most recently, awareness of the conservation needs for these collections has started to rise among the curators and other professionals in charge of such collections. As they also are eligible for some of the funding for conservation care, one might expect the situation in these collections to show some improvement in the future. The difficulties, on the other hand, are many: the size of the collections, enormous by fine arts collection standards, and the already-mentioned lack of research data and of specialized conservators. These factors, as well as the need to minimize intervention which is dictated by the research use of these collections, result in an emphasis on prevention rather than remedial treatment. The trend towards prevention has become prevalent in other museums: the improvement of storage and exhibit environments results in a larger benefit to more objects than a concentration on individual treatments after objects have become the victim of improper environments. Of course, factors other than environment can also necessitate conservation treatment, but too often in the past, objects were returned from the conservation laboratory to the same conditions which had caused their instability in the first place. IMS, a major funding source for conservation assistance, has established priorities for funding in which collection surveys top the list, followed by modifications to the physical plant for improvement of storage and exhibit environment, all before actual treatments of individual objects.

PROFESSIONAL ORGANIZATIONS

It might be of interest now to look at some of the organizations which play major roles in this field. Already mentioned several times was NIC, the National Institute for Conservation of Cultural Property. NIC is a national organization which provides a forum and clearinghouse for institutions and organizations with an interest in conservation, either as users or providers. One of its major functions is to assess needs in conservation and formulate national strategies to address those needs. Both under its former identity as the National Conservation Advisory

Council (NCAC) and its present structure, it has conducted comprehensive studies of needs in particular areas of conservation, which have been published in a series of special reports. Coordination of projects to address the identified needs is performed, identifying appropriate organizations and institutions to run these projects, bringing them together and assisting in finding the necessary funding. Its role in raising public awareness of conservation has been mentioned already.

AIC is primarily an organization of individual conservation professionals, although others can be nonprofessional members; a special category exists for institutional members. Its goals are overall educational, providing mechanisms for exchange of professional information within the conservation community, raising and maintaining professional standards, and promoting the state of conservation through educational outreach to related professions as well as the general public. AIC's Code of Ethics and Standards of Practice provide professional standards and rules of conduct with which professional AIC members are bound to comply. AIC publishes the scholarly *Journal of the American Institute for Conservation*, which contains technical and scientific articles of interest to the conservation professional, and a bimonthly newsletter. The Annual Meeting provides members with the opportunity to present papers of a technical nature for discussion with their peers. Within AIC, a number of so-called Specialty Groups have been organized, which provide members with a forum to discuss technical and other issues of specific relevance to a particular conservation specialization. These groups organize individual technical sessions at the Annual Meeting, and several produce specialized technical publications. Of special interest to the readers of this paper may be the Book and Paper Group of AIC, which among others has published its *Book and Paper Annual* since 1982. AIC's educational goals and activities are also pursued and supported by the Foundation of the American Institute for the Conservation of Historic and Artistic Works (FAIC). FAIC operates several endowments that support the attendance of students at professional meetings and provide assistance for the production of technical publications, the organization of small symposia and refresher courses, and the individual pursuit of projects aimed at professional advancement. One of the Endowment funds, established in honor of well-known book conservator Carolyn Horton, specifically provides support to students in book conservation.

Professionals engaged in architectural conservation and historic preservation in the United States and Canada are likely to maintain membership in the Association for Preservation Technology (APT). This organization publishes the *APT Bulletin: The Journal of Preservation Technology* and *Communique*, and organizes annual technical meetings. Many American conservators also maintain membership in one of several

international professional organizations. Most are members of the International Institute for Conservation of Historic and Artistic Works (IIC). This organization, based in London, also has chapters in a large number of countries. In fact, AIC originally was the American Group of IIC, but became an independent organization partially for legal reasons. IIC publishes the journal *Studies in Conservation*, a *Bulletin* and, until recently, the *Art and Archaeology Technical Abstracts* (AATA). Now *AATA* is published by the Getty Conservation Institute in association with IIC. In addition to the printed version, this journal is now also accessible online through the Conservation Information Network (CIN). IIC organizes a biennial international conference where conservators from many countries present technical papers which are published in the *Preprints*. Another major international organization is the Conservation Committee of ICOM, the International Council of Museums. ICOM's Conservation Committee is organized in technical work groups which meet during the triennial meeting of the Conservation Committee. The Committee publishes elaborate *Preprints* of papers presented at the meeting.

A very important organization is the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM). This organization, based in Rome, is organized along the same lines as UNESCO, i.e., with membership of countries, including the United States, who pay an annual contribution which is based on their UNESCO assessment. ICCROM plays a major international educational role. It provides courses, both short and long, in areas where little training is available elsewhere. These include specialties for which little or no training opportunities exist in the United States. Thus for a long time ICCROM was the only place where architects could receive training in architectural conservation. Other examples of such courses are the mural painting course, and a course on the scientific principles in conservation. A major activity of ICCROM is its assistance to developing countries in the preservation of their cultural property. ICCROM will organize technical missions to such countries in order to provide actual assistance while training local staff. The PREMA course is a new training program in preventive collection care, especially designed for African countries. ICCROM also is a major international information center. It maintains a very large technical library and a bibliographic abstract database, which is accessible through the Conservation Information Network. Its publication program produces a number of specialized books annually, as well as international indices on conservation training programs and ongoing conservation research.

CONCLUSION

Conservation is a field in motion, with great needs and difficulties, but also with active progress and great promises. Conservation in the United States, as well as worldwide, has enormous challenges to meet, but it has come a long way and should be able to maintain its progress. On a wall of the American Institute for Conservation of Historic and Artistic Works hangs a framed quotation, attributed to Goethe, that transcends both time and place:

> Works of art are the property of mankind and ownership carries with it the obligation to preserve them. He who neglects this duty and directly or indirectly contributes to their damage or ruin invites the reproach of barbarism and will be punished with the contempt of all educated people, now and in future ages.

This directive, applied to all cultural property which citizens of the world own collectively, is still and even more valid today. Conservators have their task cut out for them and cannot afford to fail.